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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/751,939	01/02/2001	Jae Goan Jeong	P 275428 2000-OPH-2055	8888

7590

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EXAMINER

VU, DAVID

ART UNIT

PAPER NUMBER

2818

DATE MAILED: 01/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/751,939

Applicant(s)

JEONG, JAE GOAN

Examiner

DAVID VU

Art Unit

2818

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) 4-6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/ Restriction

1. Application's election without traverse of Group I (Claims 1-3) in Paper No.7 is acknowledge.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

2. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Kojima, (US 6,072,241).

Kojima, in related text (Col. 6, Line. 32-Col. 7, Line. 65) and figures (Fig. 3A-3D) discloses a transistor comprising: a device isolation oxide film formed on a semiconductor substrate, the device isolation oxide including an opening that exposes a portion of the semiconductor substrate, the exposed portion of the semiconductor substrate defining an active region;(Fig. 3H)

a gate electrode structure formed in the active region, wherein the gate electrode structure covers only a central portion of the active region and is separated from the device isolation oxide film, the gate electrode structure further comprising

a gate oxide film 13 formed on the semiconductor substrate in the active region,

a gate electrode formed on the gate oxide film 13, the gate electrode having an upper surface and two substantially vertical sidewalls (16a, 17a), the gate electrode further comprising a stacked structure having a first conductor 14a and a second conductor 14b,

an oxide layer 16a formed on the first conductor 14a, and nitride spacers 17a formed on the oxide layer 16a on the sidewalls of the gate electrode;

lightly doped drain (LDD) regions formed in the active region of the semiconductor substrate on both sides of the gate electrode; source/drain regions 22/24 formed in the active region of the semiconductor substrate on both sides of the gate electrode; (Col. 7, Lines. 45-50) and second and third insulating films 25/26 filling and planarizing the space above the active region and between the gate electrode structure and the device isolation oxide film.

In re claim 2, wherein the device isolation oxide film surrounding the opening has substantially vertical profile with respect to the exposed portion of the semiconductor substrate, the profile being modified near the junction of the device isolation oxide film and the semiconductor substrate such that the device isolation oxide film has a substantially rounded profile (Fig. 3D)

In re claim 3, wherein a hard mask layer 15 is formed on the gate electrode (Fig. 3A).

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Vu whose telephone number is (703) 305-0391. The examiner can normally be reached on Monday-Friday from 8:00am to 5:00pm. If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms., can be reached on (703) 308-4910.

David Vu **DV**
Art Unit 2818


David Nelms
Supervisory Patent Examiner
Technology Center 2800